

Application Serial No.: 10/655,143
Reply to Office Action of August 21,2007

Atty. Dkt. No.
UCF-375

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims

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Claims 1 - 26 (Canceled).

Claim 27 (Currently Amended). A method for enhancing the ~~longevity~~ survivability of living biological cells in the body comprising:

selecting a plurality of living biological cells in the body;

adding one single application of non agglomerated, ultra fine, engineered nanoparticles of ~~Cerium Oxide~~ cerium oxide of the size approximately 2 nm to approximately 10 nm wherein the nanoparticles contain a plurality of oxygen vacancies in a lattice structure and the oxygen vacancies support biological activity as free radical scavengers to cultures of the plurality of living biological cells; and

enhancing a lifespan of the living cells in the body when the cerium oxide particles function as a regenerative free radical scavenger wherein after {a} one free radical scavenging event has occurred, the cerium oxide particles remain biologically available for more than one free radical scavenging event, wherein the method for enhancing survivability is not topically applied outside the body.

Claim 28 (new) The method of claim 27, wherein the living cells are brain cells.

Claim 29 (New). The method of claim 27, wherein the living cells are wounded tissues in the body.

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Claim 30 (New). The method of claim 27, wherein the living cells are tissues damaged by arthritis.

Claim 31 (New). The method of claim 27, wherein the living cells are diseased joints.

Claim 32 (New). The method of claim 27, further comprising methods of coating a stent and other vascular replacements to decrease free radical damage associated with vascular disease and inflammatory response.

Claim 33 (New). The method of claim 27, wherein the cerium oxide nanoparticles are administered by at least one of oral pharmaceutical composition, intravenous injection and intrathecal delivery.